

Barnwell County Early Action Plan for the 8-Hour Ozone Standard

Background

In 1997, the Environmental Protection Agency (EPA) revised the National Ambient Air Quality Standard (NAAQS) for Ozone from a one-hour standard to an 8-hour standard. This was done to reflect the latest understanding of the effects of ozone exposure and provide public health protection with adequate margin of safety. EPA will be designating areas as attainment (meeting the standard) or non-attainment (not meeting the standard) in April of 2004. This designation will be based on the most recent three years of monitoring data (i.e., 2001, 2002, 2003). The Department of Health and Environmental Control (DHEC) has an intensive monitoring network covering the state and routinely monitors for ozone during the months of April through October. This time period is often referred to as the “Ozone Season.” If an area is designated non-attainment, the Clean Air Act (CAA) requires states to revise their State Implementation Plan (SIP) outlining how the area will return to attainment within a certain time period. If EPA designates areas in South Carolina as non-attainment in April of 2004, a revision to the South Carolina SIP will be due no later than 2007. Additionally, once an area is designated as non-attainment, the CAA has specific requirements that must be implemented. These requirements affect industry, economic development, and transportation. One requirement, Non-attainment New Source Review sets out the level of emissions reductions required for new and modified industrial facilities. Another requirement of non-attainment areas is to coordinate local transportation and air quality planning to ensure that transportation plans, programs and projects are consistent with air quality goals. According to the CAA, transportation plans, programs, and projects cannot create new violations of the Federal air quality standards; increase the frequency or severity of existing violations of the standard; or, delay attainment of standards.

The above approach is commonly referred to as the “traditional” approach. While safeguards for areas to return to attainment are included, certain prescriptive requirements may not be appropriate for all areas designated non-attainment for the 8-hour ozone standard. As a result, EPA provided an option for areas that were meeting the one-hour standard to attain the 8-hour ozone standard by December 31, 2007, and obtain cleaner air sooner than currently federally mandated. This option offers a more expeditious time frame for achieving emissions reductions, while providing “fail-safe” provisions for the area to revert to the traditional SIP process if specific milestones are not met. EPA will move forward with the designation process (attainment or non-attainment) but will defer the effective date, thus the prescriptive requirements of non-attainment designations, provided all terms and conditions of an Early Action Compact (EAC) are being met.

Forty-five counties in South Carolina elected to participate in the development of an Early Action State Implementation Plan (EAP). Participants in the EAC include the county, DHEC and the EPA. All of these parties agree to work together to implement federal, state and local emissions control measures that will allow the non-attainment areas to attain the 8-hour ozone standard earlier and therefore avoid implementing costly prescriptive measures. The EAC requires that all counties submit a local Early Action Plan to DHEC by March 31, 2004.

Even though Barnwell County is a potential area to be designated non-attainment for the 8-hour ozone standard. As air knows no boundaries, implementation of emission reduction strategies and support of federal and state rules and regulations will help to provide cleaner air sooner to citizens of Barnwell County and South Carolina.

What is Ozone?

Ozone is a gas that occurs both in the Earth's upper atmosphere and at ground level. Ozone is one of six criteria pollutants used by the EPA as an indicator of air quality. Depending on where ozone is found, it can be good or bad. Occurring naturally in the upper atmosphere, ozone acts as a shield from the sun's harmful ultraviolet rays. However, ground-level ozone is a concern during the summer months when the weather conditions are favorable for producing ozone. Ozone is formed by chemical reactions between volatile organic compounds (VOCs) and oxides of nitrogen (NOx) in the presence of sunlight. Ozone is a major ingredient of smog.

Ozone Health Effects

Ozone can cause permanent damage to the respiratory system. Active children are at highest risk from ozone exposure because they often spend a large amount of time outdoors. Active adults of all ages who exercise or work outdoors have an increased risk of exposure to elevated levels of ozone. People with asthma or other respiratory diseases are particularly sensitive to ozone exposure.

Sources of NOx and VOCs

NOx and VOCs come from emissions from the following sources: stationary, area, mobile and natural. Stationary sources include larger permitted industry and power plants. Area sources are small, stationary and non-transportation sources that collectively contribute to air pollution. Area sources include gas stations (emit NOx) and dry-cleaners (emit VOCs). Mobile sources are divided into two categories, on-road and off-road. The off-road mobile sources include trains, ships, boats, airplanes, lawn equipment, and construction equipment. On-road mobile sources include cars, trucks, and buses. Natural sources for VOCs are released from vegetation, mostly trees in South Carolina. Natural sources for NOx are very rare and include emissions from soil, lightning, and oceans.

Stakeholder Involvement

Refer to the progress reports submitted every six months for information regarding the stakeholder process and a complete listing of the stakeholder meetings and public outreach initiatives.

Emission Reduction Strategies

Through the development and implementation of this plan, local emission reduction strategies that are economically feasible and that make sense for the county will be implemented no later than April 2005. In doing so, these efforts should assist the state in achieving the 8-hour ozone standard by December 31, 2007, and maintaining the standard beyond 2012.

A number of federal control measures are in place and/or will be phased in over the next several years. These programs include the Tier II and Low Sulfur Gasoline and also the NOx SIP call. All of these programs have been developed to help areas attain air quality standards.

The state is also proposing new and/or modifications to regulations that will assist non-attainment areas. The State programs could include a regulation that would result in VOC and NO_x reductions; modifications to the open burning regulations and a process to assure transportation plans, programs, and projects consider air quality goals.

Attachment 1 contains a list of emission reduction strategies that will be implemented by the county. While it may not be possible to determine emissions reductions for each of the strategies included, directionally sound strategies have been selected and the county anticipates the cumulative impact of adopting each of these strategies will assist in maintaining the standard.

Maintenance

The county will continue to address strategies that will assist in long-term maintenance of the 8-hour ozone standard. DHEC will continue to provide the air quality monitoring necessary to determine attainment of the 8-hour ozone standard. Yearly, at the end of each ozone season, there will be a review and evaluation to determine the effectiveness of the strategies adopted. If necessary, additional emission reduction strategies may be adopted. Maintenance of the standard will depend upon the success of emission reduction strategies implemented as well as federal and state initiatives.

Early Action Compact Milestone
List of Emission Reduction Strategies Under Consideration

Barnwell County

Based on stakeholder consultation and taking into consideration resource and political constraints, the following control measures under consideration can be reasonably implemented. It is anticipated these measures under consideration will assist Barnwell County in achieving and/or maintaining the 8-hour ozone standard by 2007.

| Measure under Consideration | Description of measure (A more detailed description will be included in the Early Action Plan.) | Estimate of emission reductions (if available) | Proposed date for implementation | Geographic area and/or local government |
|-----------------------------|--|--|----------------------------------|---|
| Air Quality Contact | <p>During the peak Ozone months Barnwell County will have a designated Ozone Action Coordinator (OAC). His\her responsibility will be to monitor Ozone Forecast and implement Ozone Reduction Action Plan. High Ozone Alerts will be available from local television and radio news/weather broadcast and E-mail alerts from DHEC.</p> <p>Barnwell County will form a county ozone committee, consisting of all county department heads, to develop and implement a countywide Ozone Reduction Action Plan.</p> <p>Actions may include:</p> <p>Stricter fuel conversation measures Restrict or change time of landscaping and lawn mowing equipment Restrict unnecessary use of on-road vehicle usage Encourage employees to eat lunch in-house Restrict using cleaning chemicals and non-latex paint Employ stricter building conservation measures Promote and encourage car-pooling</p> | Not available | 2003 | County wide |

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| Support state-wide efforts | Barnwell County will support the efforts of SC DHEC regarding statewide emission reduction strategies. | Not available | Ongoing Activity | County wide |
| Bio-Diesel/ Alternative Fuels: | Barnwell County will be seeking information on Alternative Fuels. | Not available | Not available in Barnwell County at this time | County wide |
| Reduction of Idling or No- Idle Policy for County Vehicles: | Department Heads will develop and implement inter-departmental plans to reduce or eliminate idling times on vehicles and ground maintenance equipment. This policy will contain stricter guidelines for use during high ozone days. | Not available | Implemented 2003 | County wide |
| Stricter Controls of Illegal/ Unauthorized Outdoor Burning: | Barnwell County's Fire Districts, Emergency Services and Sheriff's Department will work in combination with State Agencies to develop this action. This action will focus on issues dealing with illegal burning, tires, plastics, roofing materials and hazardous substances. | Not available | Implemented 2003 | County wide |
| Vehicle Replacement: | Barnwell County's Business Manager will develop a plan to purchase replacement vehicles with a priority on vehicles and equipment with the latest emission reduction standards. Over a five to seven year period our present fleet can be replaced with a cleaner burning and better fuel-efficient fleet. | Not available | Still under review | County wide |
| Community Awareness and Education: | Enhancing Ozone awareness and education will be a vital part of our Early Action Plan. Aggressive A/E programs to motivate individuals, business, industries and organization to take actions to minimize ozone pollution. A/E will include public speaking, distribution of educational materials and increased media alerts promoting Clean Air Awareness. | Not available | Implemented 2003 and Ongoing | County wide |

Early Action Compact Milestone - June 2003 - Progress Report
Barnwell County

1. Document progress in developing stakeholder process, including, for example, roles and responsibilities of various stakeholder groups, list of stakeholders, brief summary of stakeholder meetings, stakeholder involvement in development of initial list of control measures, etc.

Upon agreeing to participate in the early action process for the 8-hour Ozone standard, the Barnwell County Administrator, delegated the program responsibility to John F. Angil, II, Director of Emergency Management.

A meeting inviting local industry representatives, local state agencies (i.e., SCDOT, DHEC Lower Savannah EQC office, Forestry Commission), DHEC representatives, county economic development personnel, county planning personnel, local news media and municipalities and towns within the county was held. The purpose of the meeting was to establish a Steering Committee. An overview of the ozone standard, implementation, boundary designations and the early action SIP process were discussed. The representatives attending agreed to serve on the Steering Committee.

Steering Committee activities to date:
Formed two sub-committees.

- ?? Industry – This sub-committee, chaired by the county Economic Development Commission, consists of local industry and Barnwell County government. There one meeting where industry representatives have discussed emission reduction measures that have taken place over the last several years and that are proposed. There has also been discussion regarding industry and business implementing voluntary commute and work schedule efforts for employees.
- ?? City, County and State Government – This sub-committee, chaired by John Angil, is comprised of government officials and is looking at strategies that can be implemented within the respective day-to-day government operations. This may include implementing voluntary commute options and alternate work schedules to avoiding lawn maintenance activities on Ozone Action Days. Barnwell County has appointed an Ozone Action Coordinator that will be responsible for notifying government officials, industry, business and concerned citizens of Ozone Action Days.
 - a. Recognizes the need for an Education and Outreach sub-committee once proposed emission reduction strategies are developed.
 - b. Discussed the possibility of local governments signing a resolution in support of the county's commitment to the 8-hour Ozone Early Action Plan.
 - c. Discussed the possibility of local industry submitting letters of support to the county.
 - d. Proposed Ozone Reduction Activities for implementing year-round and also activities for Ozone Action days. To continue participation in the 8-hour Ozone early action process, this information is required to be submitted to EPA by June 16, 2003. This information may be modified prior to and/or after that date.

- e. The committee is not aware of local environmental organizations to invite their participation in these efforts.
2. Report progress on evaluating and selecting emission reduction measures for the local control strategy.
See June 16, 2003 submittal *List of Emission Reduction Strategies Under Consideration*.
3. Describe public outreach activities (press coverage, public presentations, websites, etc.)

Barnwell County is committed to develop, implement and maintain an Ozone Reduction Early Action Plan. The purpose and goals of this plan is for Barnwell County to work with City, State and federal Government Agencies, Industries and Public Interest Group to obtain cleaner air sooner than Federally mandated.

A meeting is planned for June 20th.
4. Provide update on modeling/technical planning activities.

These activities are the responsibility of the state. Refer to the June 2003 Progress Report submitted by the South Carolina Department of Health and Environmental Control, Bureau of Air Quality.
5. Continued discussions of plans for reduction strategies during Business and Industry roundtable to keep from obtaining non-attainment status.